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10/577,404	11/14/2006	Karl-Heinz Minuth	095309.57634US	1401

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EXAMINER	
LYNCH, PATRICK D	
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3636	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,404	MINUTH ET AL.	
	Examiner	Art Unit	
	Patrick D. Lynch	3636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/27/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The examiner acknowledges applicant's cancellation of claims 1-12 and addition of claims 13-29 in the preliminary amendment received April 27, 2006. As such, claims 13-29 are currently pending.

Specification

2. Claim 13 is objected to because of the following informalities: Paragraph 4, line 1: "…for passively ventilated vehicle seat..." should read "...for a passively ventilated vehicle seat…" Claim 13, paragraph 4, line 4, "close" should be "closed." Appropriate correction is required.
3. Claim 15 is objected to because of the following informalities: Line 3, "…ventilation channels in the actively ventilated vehicle seat…" should read "…ventilation channels, and in the actively ventilated vehicle seat…" Appropriate correction is required.
4. Claim 19 is objected to because of the following informalities: line 3, "…adapted to at least one of…" should read "…adapted to be at least one of…" Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 13-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claim 13, applicant recites limitations (specifically in the fourth paragraph of claim 13) drawn to both a passively ventilated vehicle seat and an actively ventilated vehicle seat. Applicant discloses three embodiments in the specification, components for a passively ventilated seat, components for an actively ventilated seat, and components for a seat which may be switched between a passively ventilated mode and an actively ventilated mode. However, it is currently unclear whether applicant intends to claim these limitations in the alternative (i.e. including components for one of a passively ventilated vehicle seat or an actively ventilated vehicle seat), or whether applicant intends to claim the embodiment including both passively ventilating and actively ventilating modes. It appears as though applicant intends for claim 13 to be sufficiently broad so as to encompass all three embodiments, yet as written the metes and bounds are impossible to determine. Further clarification of the claim language is required. For the purpose of this examination, the examiner will presume that applicant intended for the claim to be in the alternative form.
8. Claim 22 recites the limitation "the at least one fan" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.
9. Regarding claim 23, the limitation, "…ventilation channels arranged essentially transversely to the ventilation channels…" is indefinite. It is impossible for the channels to be arranged transversely to themselves. The examiner assumes that applicant intended for the limitation to read, "…ventilation channels arranged essentially transversely to the ventilation ducts…"

10. Regarding claim 24, applicant recites the limitation “a flow permeable layer in the passively ventilated vehicles seat”. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. As best understood, claims 13, 15, 21, 23, 25, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Andersson et al. (US 6,578,910).

13. Regarding claim 13, Andersson discloses components for an actively ventilated motor vehicle seat (See Title, "fan element" 6 indicates that the seat is actively ventilated) having a cushion comprising:

    a. Ventilation ducts (3) running along and inside at least one of a seat surface (7) and a backrest, and

    b. Ventilation channels (2, 4) arranged essentially transversely to the ventilation ducts (As shown in Figs. 1 and 2, ducts 3 run in an essentially horizontal plane while channels 2 and 4 run vertically), penetrate an overall thickness of the cushion core and extend from the ventilation ducts up to a rear wall facing away from at least one of the seat surface and backrest surface (Fig. 1 shows that the channels 2 extend all the way through the cushion core while the channels 4

extend all the way through the cushion core through a connection by ducts 5 to channels 2.), wherein

c. At lest one fan (6) is provided and at least one ventilation channel is closed (Figs. 2 and 3 show that during active ventilation when one is seated on the chair, the ducts 5 become closed thus closing the channels 4 to the surroundings.). The examiner notes that for a passively ventilated configuration where the fan is turned off and the person has exited the vehicle, the ventilation channels are all air permeably connected to the surroundings (See Fig. 1).

14. Regarding claim 15, Andersson discloses that the cushion core has, on the rear wall, a respective opening in a mouth region of the ventilation channels (Col 3, lines 45-51, "These branch ducts 2 have comparatively large diameter and cross substantially the entire seat bottom. In direct connection with these branch ducts...a fan is arranged, which can exhaust air through the seat bottom, prefereably from the upper side of the seat bottom to its underside."; Thus the bottom side of the cushion as a mouth which opens to the surroundings.), and in the actively ventilated seat, at least one of the ventilation channels is closed (See Fig. 2, when ventilation is actively occurring as an occupant is disposed in the seat, the channels 4 are closed.).

15. Regarding claim 21, Andersson discloses that the actively ventilated vehicle seat has at least one inflow channel (The vertical portions of ducts 3 located to at the sides of the seat are considered the inflow channels) through which ambient air passes into the vehicle seat (See arrows in Fig. 2), at least one outlet channel (2)

through which air passes from the vehicle seat into the surroundings (See arrows in Fig. 2), and closed ventilation channels (4) arranged between the at least one inflow channel and the at least one outflow channel.

16. Regarding claim 23, Andersson discloses an actively ventilated motor vehicle seat (See Title) having a cushion core, comprising ventilation ducts (3) running along and inside at least one of a seat surface (7) and a backrest surface, ventilation channels (2, 4) arranged essentially transversely to the ventilation ducts (As shown in Figs. 1 and 2, ducts 3 run in an essentially horizontal plane while channels 2 and 4 run vertically), So as topenetrate an overall thickness of the cushion cor and extend from the ventilation ducts up to at least one of a rear wall facing awar from the seat surface and backrest surface (Fig. 1 shows that the channels 2 extend all the way through the cushion core while the channels 4 extend all the way through the cushion core through a connection by ducts 5 to channels 2.), and at least one fan (6), wherein at least one ventilation channel is closed (Figs. 2 and 3 show that channels 4 are closed under normal ventilating operation).

17. Regarding claim 25, Andersson discloses that the cushion core has, on the rear wall, a respective opening in a mouth region of the ventilation channels (Col 3, lines 45-51, "These branch ducts 2 have comparatively large diameter and cross substantially the entire seat bottom. In direct connection with these branch ducts...a fan is arranged, which can exhaust air through the seat bottom, prefereably from the upper side of the seat bottom to its underside."; Thus the bottom side of the cushion as a mouth which opens to the surroundings.), and in

the actively ventilated seat, at least one of the ventilation channels is closed (See Fig. 2, when ventilation is actively occurring as an occupant is disposed in the seat, the channels 4 are closed.).

18. Regarding claim 29, Andersson discloses that the actively ventilated vehicle seat has at least one inflow channel (The vertical portions of ducts 3 located to at the sides of the seat are considered the inflow channels) through which ambient air passes into the vehicle seat (See arrows in Fig. 2), at least one outlet channel (2) through which air passes from the vehicle seat into the surroundings (See arrows in Fig. 2), and closed ventilation channels (4) arranged between the at least one inflow channel and the at least one outflow channel.
19. As best understood, claims 13 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Fourrey (US 6,291,803).
20. Regarding claim 13, Fourrey discloses components for a motor vehicle seat (3) having a cushion core (12), comprising:
    a. Ventillation ducts (8a, 8b) running along and inside at least one of a seat surface (5) and backrest surface;
    b. Ventilation channels (13) arranged essentially transversely to the ventilation ducts (Fig. 1 shows that the ventilation ducts 8a, 8b run in a horizontal plane from front to back beneath the seating surface while Fig. 2 shows the ventilation channels running vertically from top to bottom of the seat cushion) penetrating an overall thickness of the cushion core and extending from the ventilation ducts up to a rear wall facing away from at least one of the seat surface and

backrest surface (Fig. 2 shows that the channels 13 extend completely through the cushion core 12).

c. Wherein for a passively ventilated vehicle seat, the ventilation channels are flow permeably connected to the surroundings via an opening in the rear wall, and for an actively ventilated vehicle seat, at least one fan is provided and at least one ventilation channel is closed. (As explained by the specification, the seat of Fourrey can operate in a forced operation mode. In the forced operation mode, the flaps 24 are closed and the fan 21 is started to blow hot air towards the seat. Alternatively when the car is parked and not in use the flaps are left open. Thus during forced operation, the seat is actively ventilated, a fan is provided, and the outer ventilation channels are closed due to the closing of the flaps. When the car is parked and turned off, the ventilation channels are connected to the surroundings due to the flaps being opened and the seat is passively ventilated.).

21. Regarding claim 22, Fourrey et al. discloses that a controllable ventilation channel closure ("flaps" 24) is operatively interacted with at least one fan (21) to provide active or passive ventilation of the vehicle seat.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. As best understood, claims 19 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (US 6,578,910) in view of Suzuki et al. (US 6,062,641).

24. Regarding claims 19 and 27, Andersson et al. discloses components for a vehicle seat including all of the structure of claim 12, upon which claim 19 is dependent, and an actively ventilated vehicle seat including all of the structure of claim 23, upon which claim 27 is dependent, as set forth above.

25. Andersson et al. does not expressly disclose that the arrangement of at least one of the ventilation ducts and ventilation channels is adapted to be at least one of a body pressure distribution and body contact points.

26. Suzuki et al., however, discloses a seat apparatus with air flow (See Title) having ventilation ducts (24) and a ventilation channel (23). The ventilation ducts are arranged to correspond to the body pressure distribution of an occupant (Col. 3, lines 56-59, "...the position of the grooves 24 is selected based on the pressure distribution associated with an individual sitting on the seat cushion 20."). Suzuki et al. explains that the high pressure areas are areas that more difficult to breathe and thus require active ventilation and air passages in order to sufficiently cool a user (See Col. 4, lines 1-4).

27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle seat of Andersson et al. by arranging the ventilation ducts and ventilation channels such that they correspond to the pressure distribution of a typical seat occupant, similar to the arrangement of

Suzuki et al. This modification would be beneficial since the areas of high pressure are the areas which need the most active ventilation since these are areas where it is more difficult for the cushion to breathe in the absence of ventilation ducts and forced air.

28. As best understood, claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (US 6,578,910) in view of Buss et al. (US 2003/0230913).

29. Regarding claim 24, Andersson et al. discloses an actively ventilated vehicle seat including all of the structure of claim 23, upon which claim 24 is dependent, as set forth above.

30. Andersson et al. does not expressly disclose a flow impermeable layer on the rear wall of the cushion core that is pierced or removed in a mouth region of at least one of the ventilation channels.

31. Buss et al., however, discloses a vehicle seat (See Title), including ventilation channels (48 and 50) and having a flow impermeable layer (44) that is pierced or removed in a mouth region of at least one of the ventilation channels (Paragraph [0016], "…air inlet channels 48 which extend perpendicularly with respect to the ventilation layer and which—penetrating the seat support 44—extend…"). This flow impermeable layer is merely the seat support and provides structural integrity to the cushion while the penetrations of the layer allow air to flow from beneath the seat through the cushion.

32. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle seat of Andersson et al. by including a flow impermeable layer having piercings in the mouth region of the ventilation channels, similar to the layer of Buss et al. This modification would be beneficial since the layer would provide provides structural integrity to the cushion while the penetrations of the layer would allow air to flow from beneath the seat through the cushion.

33. As best understood, claim 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (US 6,578,910) in view of Fenton (US 3,770,318).

34. Regarding claim 26, Andersson et al. discloses an actively ventilated vehicle seat including all of the structure of claim 23, upon which claim 26 is dependent, as set forth above.

35. Andersson et al. does not expressly disclose that the ventilation ducts are configured as a duct grid and intersect in a flow-connected manner.

36. Fenton, however, discloses a ventilated vehicle seat (Title) having both ventilation ducts (40) and ventilation channels (52) and wherein the ventilation ducts (40) are arranged in a duct grid and intersect in a flow connected manner (See Fig. 1). A grid system is the most efficient means of distributing ventilated air evenly over a surface.

37. Thus it would have been obvious to one having ordinary skill at the time the invention was made to modify the vehicle seat of Andersson et al. by arranging the

ventilation ducts in a duct grid where the ducts intersecting a flow connected manner, similar to the seat of Fenton. This modification would be beneficial since a grid arrangement is the most efficient way to distribute ventilated air equally over all parts of the vehicle seat. Thus a grid system would provide a more evenly ventilated seating surface.

38. As best understood, claims 13, 14, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fenton (US 3,770,318) in view of Gregory et al. (US 5,597,200)

39. Regarding claim 13, Fenton discloses components for a passively ventilated motor vehicle seat (See Title, there are also no fans or pumps to move the air) having a cushion core (22), comprising:

    a. Ventilation ducts (40) running along one of a seat surface and backrest surface (See Fig. 1).

    b. Ventilation channels (52) arranged essentially transversely to the ventilation ducts (Fig. 2 shows that the ducts 40 extend in a horizontal plane while the channels 52 extend vertically), penetrate an overall thickness of the cushion core and extend from the ventilation ducts up to a rear wall facing away from at least one of the seat surface and backrest surface (Fig. 2 shows that the channels 52 extend all the way through cushion 22, form the ducts 40 at the seat surface, to the rear surface of the cushion 22), wherein

    c. The ventilation channels are flow permeably connected to the surroundings via an opening in the rear wall (Channels 52 open from the rear wall of cushion 22

into "common passage" 54 where air flows through tubing 68 and to the surrounding through holes 64. Thus the channels are flow permeably connected to the surroundings via an opening in the rear wall.)

40. Fenton does not expressly disclose that the ventilation ducts run inside of the seat surface.

41. Gregroy et al., however, teaches a similar seat cushion having ventilation ducts (132-137, Fig. 2) and ventilation channels (126) wherein the ducts are covered by a reticulated foam layer (140) and upholstery (142) which forms the seating surface. Thus, the ventilation ducts run along and inside of the seating surface. By adding the reticulated foam layer the ventilated air is better dispersed and the ventilation ducts are prevented from being blocked by the occupant.

42. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle seat of Fenton by including a reticulated foam layer between the cover and the cushion, similar to that of Gregory et al., such that the ventilation ducts would run along and inside of the seating surface. This modification would be beneficial since it would prevent the blockage of the ventilation ducts and channels which could otherwise occur from the occupant's body conforming to the seat surface. Additionally ventilating air entering the channels and ducts would be more dispersed after passing through the reticulated foam layer. The seating surface would also be more comfortable since the body weight is distributed over the reticulated foam padding.

43. Regarding claim 14, Fenton discloses that the cushion core has, on the rear wall, a flow-impermeable layer (24) which is pierced of removed in a mouth region of at least one of the ventilation channels ("common passage" 54 is considered the mouth region of the channels 52, and as can be seen from Fig. 2, the "common passage" 54 passes through a removed portion or pierced portion of the impermeable layer 24 towards the rear of the seat.).
44. Regarding claim 18, Fenton discloses that the ventilation ducts (40) are configured as a duct grid and intersect in a flow connected manner (See Fig. 1).
45. Regarding claim 20, Fenton discloses that at least one of the ventilation ducts and ventilation channels are arranged essentially regularly (Fig. 1, shows that the ventilation channels 40 are arranged in an essentially evenly spaced, regularly arranged grid.).
46. As best understood, claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fenton (US 3,770,318) in view of Gregory et al. (US 5,597,200), as applied to claim 14 above, and further in view of Hartwich et al. (US 2004/0189061).
47. Regarding claim 16, Fenton as modified by Gregory et al. discloses the claimed invention except that the flow impermeable layer is metal instead of plastic or felt. Hartwich et al., however, shows that a plastic impermeable layer (30) is an equivalent structure known in the art. Therefore, because these two air impermeable layers were art recognized equivalents at the time the invention was

made, it would have been obvious to one having ordinary skill in the art to substitute a plastic layer for the metal layer or Fenton.

48. Regarding claim 17, Fenton as modified by Gregory et al. and Hartwich et al. discloses that the plastic layer is a film. (The word 'film' is rather broad and may be construed as any thin layer under a reasonably broad interpretation. Thus since the layer of Fenton, modified to be plastic by Hartwich may be considered a film since it is a thin layer of the seat assembly.).

Conclusion

49. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmale, Yoshinori et al., Segal, Aoki, Bedford, and Ismer teach structures having similarities to that of applicants disclosed invention.

50. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Lynch whose telephone number is (571)270-3736. The examiner can normally be reached on Monday-Friday, 7:30 a.m. - 5:00 p.m., EST.

51. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn can be reached on (571) 272-6670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

52. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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05/07/2008

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